

CLAIMS

1. Treatment process for cork or a cork-based material in which said cork or said cork-based material is put into contact with a dense fluid under pressure at a temperature of from 10 to 120°C and at a pressure  
5 of from 10 to 600 bars.

2. Process according to claim 1, in which the contact is achieved at a temperature of 40 to 80°C and at a pressure of 100 to 300 bars.

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3. Process according to either of claims 1 and 2, in which said dense fluid under pressure is in the super-critical state.

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4. Process according to any one of claims 1 and 3, in which compression / decompression cycles are carried out.

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5. Process according to claim 4, in which said compression / decompression cycles are carried out with an amplitude of the pressure variation from 10 to 100 bars and time intervals varying from 10 seconds to a few minutes, for example 10 minutes.

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6. Process according to claim 1, in which said fluid is chosen for example from among carbon dioxide; sulphur hexafluoride; nitrous oxide; nitrogen monoxide; light alkanes for example containing 1 to 5 atoms of carbon, such as methane, propane, butane,

isobutane and pentane; alkenes, such as ethylene and propylene; and some organic liquids such as methanol and ethanol.

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5 7. Process according to any one of claims 1 to 6, in which a co-solvent is added to the dense fluid under pressure.

8. Process according to claim 7, in which said  
10 co-solvent is chosen from among water; aqueous solutions; alcohols, for example aliphatic alcohols with 1 to 5 atoms of carbon, such as ethanol, methanol and butanol; cetones ; and mixtures thereof.

15 9. Process according to claim 8, in which said aqueous solutions are buffer solutions such as buffer solutions of phosphate and / or hydrogenophosphate; fungicide and / or antibiotic solutions such as penicillin; antioxidant solutions such as solutions of  
20 ascorbic acid.

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25 10. Process according to any one of claims 7 to 8 in which said co-solvent is added to the dense fluid under pressure with a content of 0.01 to 10% by weight.

11. Process according to claim 10, in which said co-solvent is added to the fluid under pressure with a content of 0.02 to 1% by weight.

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30 12. Process for selective extraction of contaminating organic compounds from cork or a cork-

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based material, in which said material is treated by the process according to any one of claims 7 to 11.

13. Process for selective extraction according to claim 12, in which said organic compounds are compounds responsible for undesirable tastes and/or smells.

14. Extraction process according to claim 13, in which said organic compounds responsible for the undesirable tastes and / or smells are (poly)chlorophenols and other phenolic compounds; and (poly)chloroanisoles and other derivatives of anisole.

15. Process according to claim 12, in which said organic compounds are pentachlorophenol (PCP), trichloroanisole (TCA) and tetrachloroanisole (TeCA).

16. Extraction process according to any one of claims 12 to 15, in which the dense fluid under pressure is CO<sub>2</sub> and the co-solvent is water or an aqueous solution.

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17. Treatment or extraction process according to any one of claims 1 to 16, in which the fluid and the extracts are separated by one or several steps, after the treatment or the extraction by the dense fluid under pressure, and the gaseous fluid is recycled.

18. Process according to any one of claims 1 to 17, in which said cork or said cork-based material is also subjected to a mechanical and / or chemical

treatment before or after said treatment or said extraction by the dense fluid under pressure, and particularly treatment by hot or boiling water commonly called a "boiling treatment".

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19. Process according to any one of claims 1 to 18, in which said cork or said cork-based material is shaped before or after said treatment or said extraction using the dense fluid under pressure; either earlier than said mechanical and / or chemical treatment, if any, preceding said treatment or said extraction by the dense fluid under pressure; or later than said mechanical and / or chemical treatment, if any, after said treatment or said extraction by the dense fluid under pressure.

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20. Process according to claim 19, in which said cork or said cork-based material is put into the form of bottle corks, boards or sheets.

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21. Manufacturing process for bottle corks made of cork or made of a cork-base material, comprising at least one treatment or extraction step according to any one of claims 1 to 18.

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22. Manufacturing installation for parts made of cork or of a cork-based material such as bottle corks comprising a treatment or extraction installation by bringing said cork or said material into contact with a dense fluid under pressure under the conditions specified in any one of claims 1 to 18.

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23. Process for disinfecting cork or a cork-based material, or making it aseptic, by bringing said cork or said cork-based material into contact with a dense  
5 fluid under pressure to which a co-solvent has been added.

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